

ATGCAGCAGGCGCCGAGCCTTACGAGTTCTTCAGCGAGGAGAACAGTCCGAAATGGCGGGGACTGTTGG  
TCTCGGCCCTGCGGAAGGTTCAAGTGCATCCCCTCTCTCAGCTAATGAAGAGTCTCTCTATTA  
TATTGAAGAGCTGATTTTTTCAGCTGCTTAATAAATTATGCATGGCCCAGCCAAGGACTGTTCAAGATGTA  
GAGGAGCGAGTTCAGAAGACCTTTCCTCACCCAATTGATAAATGGGCCATTGCTGATGCACAATCTGCTA  
TAGAAAAACGAAAAACGAAGAAATCCTCTTTTACTGCCTGTGGACAAAATCCATCCTTCGTTGAAGGAAGT  
ATTAGGGTACAAAGTGGACTACCATGTATCCCTATATATTGTGGCTGTACTAGAGTATATCTCAGCTGAT  
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TGTCATGTGTGCGGATAAGGTTTTGATGGACATGTTTGATCAGGATGACATAGGTTTGGTTTCTCTCTG  
TGAAGATGAACCTGTTCTTCTGGTGAATTAACACTACTATGATCTTGTCAGAACTGAAATCGCAGAAGAA  
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TGTTTAAACCTTCTGTATACGAAAAGATTTTTAGTAACATTTAGATATACATGAATTGACTGTGAACT  
TTTAGGTTTGATTGAAGACACAGTTGAAATGACTGATGAAAGCAGTCCTCATCCCTTAGCTGGCAGCTGT  
TTTGAAGATTTGGCAGAAGAGCAAGCATTTGATCCTTATGAAACATTATCACAGGACATTCTTTCACCAG  
AGTTTCATGAACATTTCAATAAATTGATGGCCAGACCTGCAGTTGCTCTACACTTTCAGTCCATTGCTGA  
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TACTTTGAGTTACTAAAGCAATTGAAAGCATGTAGTGAAGAACAAGAAGACAGAGAATGTTTGAACCAAG  
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AAATTTGTCATGAGGAAAATACAAATTTGTGATAAAGAAGATACTTGTGAGCACAAGCATGCATTTGAAT  
TAGTATCCAAAGATGAGAACAGCATAATATTTGCTGCTAAGTCTGCTGAAGAAAAAACAACCTGGATGGC  
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GACTTTGAAAGAGACCTGGAATTGCTGGAAAGACTAGAATCCTTCATTTCAAGTGTAAGAGGGAAAGCTA  
TGAAAAAATGGGTAGAGTCAATTGCTAAGATCATCAGGAGGAAGAAGCAAGCTCAGGCAAAATGGAGTAAG  
CCATAATATTACCTTTGAAAGTCCACCTCCACCAATTGAATGGCATATCAGCAAACCAGGACAGTTTGAA  
ACATTTGATCTCATGACACTTGATCCAATAGAAATTGCACGTCAGCTGACACTTTTGGAGTCTGATCTTT  
ACAGGAAAGTTCAACCGTCTGAACCTGTAGGGAGTGTGTGGACCAAAGAAGATAAAGAAATAAATTCTCC  
AAATTTATTAAAAATGATTCGCCATACCACAAATCTCACCTCTGGTTTGAAAAATGCATTGTGGAAGCA  
GAAAATTTTGAAGAACGGGTGGCAGTACTAAGTAGAATTATAGAAATTCGCAAGTTTTTCAAGATTTGA  
ATAATTTCAATGGCGTATTGGAGATAGTCAGTGCAGTAAATTCAGTGTGAGTATACAGACTAGACCATAC  
CTTTGAGGCACTGCAGGAAAGGAAAAGGAAAATTTTGACGAAGCTGTGGAATTAAGTCAAGATCACTTT

*Fig. 1A*

AAAAAATACCTAGTAAACCTTAAGTCAATCAATCCACCTTGTGTGCCTTTTTTTTGGAAATATATTTAACAA  
ATATTCTGAAGACCGAAGAAGGAATAATGATTTTTTAAAAAGAAAGGGAAAAAGATTTAATCAATTTTCAG  
TAAGAGGAGGAAAGTAGCTGAAATTACTGGAGAAATTCAGCAGTATCAGAATCAGCCTTACTGTTTACGG  
ATAGAACCAGATATGAGGAGATTCTTTGAAAACCTTAACCCCATGGGAAGTGCATCTGAAAAAGAGTTTA  
CAGATTATTTGTTCAACAAGTCACTAGAAATTGAACCTCGAAACTGCAACAGCCACCTCGATTTCTTAG  
GAAATCAACTTTTTCTTAAATCTCCTGGAATAAGGCCTAACACAGGCCGACATGGCTCTACCTCAGGT  
ACTTTACGAGGTCACCCAACACCATTAGAAAGAGAACCATGTAAAATAAGCTTTAGTCGGATTGCTGAAA  
CTGAGCTGGAATCAACAGTGTGAGCACCACCTCTCCAAATACACCATCTACTCCACCAGTATCTGCTTC  
TTCAGACCTTAGTGTATTTTTAGATGTGGATCTCAACAGCTCCTGTGGCAGCAATAGCATCTTTGCTCCA  
GTGCTTTTGCCACATTCAAAGTCTTTCTTTAGTTTCATGTGGTAGTTTACATAAACTAAGTGAAGAGCCCC  
TGATTCCTCCTCCTCTCCTCCTCGAAAAAGTTTGATCATGATGCTTCAAATTCGAAGGGAAATATGAA  
ATCTGATGATGATCCTCCTGCTATTCCACCGAGACAGCCTCCTCCTCCAAAGGTAAAACCCAGAGTTCCT  
GTTCCCTACTGGTGCATTTGATGGGCCTCTGCATAGTCCACCTCCGCCACCACCAAGAGATCCTCTCCTG  
ATACCCCTCCACCAGTTCCTCCTCGGCCTCCAGAACACTTTATAAACTGTCCATTTAATCTTCAGCCACC  
TCCACTGGGGCATCTTCACAGAGATTGAGACTGGCTCAGAGACATTAGTACGTGTCCAAATTCGCCAAGC  
ACTCCTCCTAGCACACCCTCTCCAAGGGTACCGCGTCGATGCTATGTGCTCAGTTCTAGTCAGAATAATC  
TTGCTCATCCTCCAGCTCCCCCTGTTCCACCAAGGCAGAATTCAAGCCCTCATCTGCCAAAACTGCCACC  
AAAGACTTACAAACGGGAGCTTTGCGACCCCCCATTGTACAGACTGCCTTTGCTAGAAAAATGCAGAACT  
CCCCAATGA

*Fig. 1B*

Met	Gln	Gln	Ala	Pro	Gln	Pro	Tyr	Glu	Phe	Phe	Ser	Glu	Glu	Asn	Ser
1				5				10						15	
Pro	Lys	Trp	Arg	Gly	Leu	Leu	Val	Ser	Ala	Leu	Arg	Lys	Val	Gln	Val
			20					25					30		
Gln	Val	His	Pro	Thr	Leu	Ser	Ala	Asn	Glu	Glu	Ser	Leu	Tyr	Tyr	Ile
		35					40					45			
Glu	Glu	Leu	Ile	Phe	Gln	Leu	Leu	Asn	Lys	Leu	Cys	Met	Ala	Gln	Pro
	50					55					60				
Arg	Thr	Val	Gln	Asp	Val	Glu	Glu	Arg	Val	Gln	Lys	Thr	Phe	Pro	His
65				70					75					80	
Pro	Ile	Asp	Lys	Trp	Ala	Ile	Ala	Asp	Ala	Gln	Ser	Ala	Ile	Glu	Lys
			85					90					95		
Arg	Lys	Arg	Arg	Asn	Pro	Leu	Leu	Leu	Pro	Val	Asp	Lys	Ile	His	Pro
			100					105					110		
Ser	Leu	Lys	Glu	Val	Leu	Gly	Tyr	Lys	Val	Asp	Tyr	His	Val	Ser	Leu
	115					120						125			
Tyr	Ile	Val	Ala	Val	Leu	Glu	Tyr	Ile	Ser	Ala	Asp	Ile	Leu	Lys	Leu
	130					135					140				
Ala	Gly	Asn	Tyr	Val	Phe	Asn	Ile	Arg	His	Tyr	Glu	Ile	Ser	Gln	Gln
145					150				155					160	
Asp	Ile	Lys	Val	Ser	Met	Cys	Ala	Asp	Lys	Val	Leu	Met	Asp	Met	Phe
			165					170					175		
Asp	Gln	Asp	Asp	Ile	Gly	Leu	Val	Ser	Leu	Cys	Glu	Asp	Glu	Pro	Cys
		180						185					190		
Ser	Ser	Gly	Glu	Leu	Asn	Tyr	Tyr	Asp	Leu	Val	Arg	Thr	Glu	Ile	Ala
	195					200					205				
Glu	Glu	Arg	Gln	Tyr	Leu	Arg	Glu	Leu	Asn	Met	Ile	Ile	Lys	Val	Phe
	210					215				220					
Arg	Glu	Ala	Phe	Leu	Ser	Asp	Arg	Lys	Leu	Phe	Lys	Pro	Ser	Val	Tyr
225				230					235					240	
Glu	Lys	Ile	Phe	Ser	Asn	Ile	Ser	Asp	Ile	His	Glu	Leu	Thr	Val	Lys
			245					250					255		
Leu	Leu	Gly	Leu	Ile	Glu	Asp	Thr	Val	Glu	Met	Thr	Asp	Glu	Ser	Ser
		260						265					270		
Pro	His	Pro	Leu	Ala	Gly	Ser	Cys	Phe	Glu	Asp	Leu	Ala	Glu	Glu	Gln
	275					280						285			
Ala	Phe	Asp	Pro	Tyr	Glu	Thr	Leu	Ser	Gln	Asp	Ile	Leu	Ser	Pro	Glu
	290					295					300				

*Fig. 2A*

Phe	His	Glu	His	Phe	Asn	Lys	Leu	Met	Ala	Arg	Pro	Ala	Val	Ala	Leu
305					310					315					320
His	Phe	Gln	Ser	Ile	Ala	Asp	Gly	Phe	Lys	Glu	Ala	Val	Arg	Tyr	Val
				325					330						335
Leu	Pro	Arg	Leu	Met	Leu	Val	Pro	Val	Tyr	His	Cys	Trp	His	Tyr	Phe
			340					345						350	
Glu	Leu	Leu	Lys	Gln	Leu	Lys	Ala	Cys	Ser	Glu	Glu	Gln	Glu	Asp	Arg
		355					360						365		
Glu	Cys	Leu	Asn	Gln	Ala	Ile	Thr	Ala	Leu	Met	Asn	His	Gln	Gly	Ser
	370					375					380				
Met	Asp	Arg	Ile	Tyr	Lys	Gln	Tyr	Ser	Pro	Arg	Arg	Arg	Pro	Gly	Asp
385					390					395					400
Pro	Val	Cys	Pro	Phe	Tyr	Ser	His	Gln	Leu	Arg	Ser	Lys	His	Leu	Ala
				405					410						415
Ile	Lys	Lys	Met	Asn	Glu	Ile	Gln	Lys	Asn	Ile	Asp	Gly	Trp	Glu	Gly
			420					425					430		
Lys	Asp	Ile	Gly	Gln	Cys	Cys	Asn	Glu	Phe	Ile	Met	Glu	Gly	Pro	Leu
	435						440					445			
Thr	Arg	Ile	Gly	Ala	Lys	His	Glu	Arg	His	Ile	Phe	Leu	Phe	Asp	Gly
	450					455					460				
Leu	Met	Ile	Ser	Cys	Lys	Pro	Asn	His	Gly	Gln	Thr	Arg	Leu	Pro	Gly
465					470					475					480
Tyr	Thr	Ser	Ala	Glu	Tyr	Arg	Leu	Lys	Glu	Lys	Phe	Val	Met	Arg	Lys
			485						490					495	
Ile	Gln	Ile	Cys	Asp	Lys	Glu	Asp	Thr	Cys	Glu	His	Lys	His	Ala	Phe
			500					505						510	
Glu	Leu	Val	Ser	Lys	Asp	Glu	Asn	Ser	Ile	Ile	Phe	Ala	Ala	Lys	Ser
		515					520					525			
Ala	Glu	Glu	Lys	Asn	Asn	Trp	Met	Ala	Ala	Leu	Ile	Ser	Leu	His	Tyr
	530					535					540				
Arg	Ser	Thr	Leu	Asp	Arg	Met	Leu	Asp	Ser	Val	Leu	Leu	Lys	Glu	Glu
545					550					555					560
Asn	Glu	Gln	Pro	Leu	Arg	Leu	Pro	Ser	Pro	Glu	Val	Tyr	Arg	Phe	Val
			565					570						575	
Val	Lys	Asp	Ser	Glu	Glu	Asn	Ile	Val	Phe	Glu	Asp	Asn	Leu	Gln	Ser
		580						585					590		
Arg	Ser	Gly	Ile	Pro	Ile	Ile	Lys	Gly	Gly	Thr	Val	Val	Lys	Leu	Ile
	595						600						605		
Glu	Arg	Leu	Thr	Tyr	His	Met	Tyr	Ala	Asp	Pro	Asn	Phe	Val	Arg	Thr
610						615						620			

*Fig. 2B*

Phe	Leu	Thr	Thr	Tyr	Arg	Ser	Phe	Cys	Lys	Pro	Gln	Glu	Leu	Leu	Ser	625	630	635	640
Leu	Leu	Ile	Glu	Arg	Phe	Glu	Ile	Pro	Glu	Pro	Glu	Pro	Thr	Asp	Ala	645	650	655	
Asp	Lys	Leu	Ala	Ile	Glu	Lys	Gly	Glu	Gln	Pro	Ile	Ser	Ala	Asp	Leu	660	665	670	
Lys	Arg	Phe	Arg	Lys	Glu	Tyr	Val	Gln	Pro	Val	Gln	Leu	Arg	Val	Leu	675	680	685	
Asn	Val	Phe	Arg	His	Trp	Val	Asp	His	His	Tyr	Tyr	Asp	Phe	Glu	Arg	690	695	700	
Asp	Leu	Glu	Leu	Leu	Glu	Arg	Leu	Glu	Ser	Phe	Ile	Ser	Ser	Val	Arg	705	710	715	720
Gly	Lys	Ala	Met	Lys	Lys	Trp	Val	Glu	Ser	Ile	Ala	Lys	Ile	Ile	Arg	725	730	735	
Arg	Lys	Lys	Gln	Ala	Gln	Ala	Asn	Gly	Val	Ser	His	Asn	Ile	Thr	Phe	740	745	750	
Glu	Ser	Pro	Pro	Pro	Pro	Ile	Glu	Trp	His	Ile	Ser	Lys	Pro	Gly	Gln	755	760	765	
Phe	Glu	Thr	Phe	Asp	Leu	Met	Thr	Leu	Asp	Pro	Ile	Glu	Ile	Ala	Arg	770	775	780	
Gln	Leu	Thr	Leu	Leu	Glu	Ser	Asp	Leu	Tyr	Arg	Lys	Val	Gln	Pro	Ser	785	790	795	800
Glu	Leu	Val	Gly	Ser	Val	Trp	Thr	Lys	Glu	Asp	Lys	Glu	Ile	Asn	Ser	805	810	815	
Pro	Asn	Leu	Leu	Lys	Met	Ile	Arg	His	Thr	Thr	Asn	Leu	Thr	Leu	Trp	820	825	830	
Phe	Glu	Lys	Cys	Ile	Val	Glu	Ala	Glu	Asn	Phe	Glu	Glu	Arg	Val	Ala	835	840	845	
Val	Leu	Ser	Arg	Ile	Ile	Glu	Ile	Leu	Gln	Val	Phe	Gln	Asp	Leu	Asn	850	855	860	
Asn	Phe	Asn	Gly	Val	Leu	Glu	Ile	Val	Ser	Ala	Val	Asn	Ser	Val	Ser	865	870	875	880
Val	Tyr	Arg	Leu	Asp	His	Thr	Phe	Glu	Ala	Leu	Gln	Glu	Arg	Lys	Arg	885	890	895	
Lys	Ile	Leu	Asp	Glu	Ala	Val	Glu	Leu	Ser	Gln	Asp	His	Phe	Lys	Lys	900	905	910	
Tyr	Leu	Val	Lys	Leu	Lys	Ser	Ile	Asn	Pro	Pro	Cys	Val	Pro	Phe	Phe	915	920	925	
Gly	Ile	Tyr	Leu	Thr	Asn	Ile	Leu	Lys	Thr	Glu	Glu	Gly	Asn	Asn	Asp	930	935	940	

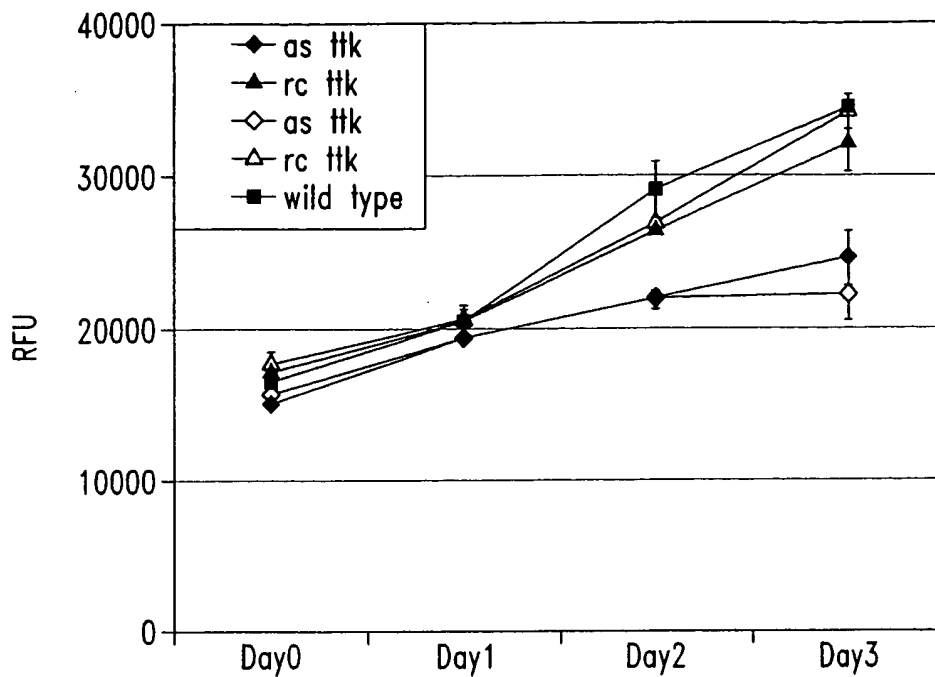
*Fig. 2C*

APhe	Leu	Lys	Arg	Lys	Gly	Lys	Asp	Leu	Ile	Asn	Phe	Ser	Lys	Arg	Arg
945				950					955					960	
Lys	Val	Ala	Glu	Ile	Thr	Gly	Glu	Ile	Gln	Gln	Tyr	Gln	Asn	Gln	Pro
			965					970						975	
Tyr	Cys	Leu	Arg	Ile	Glu	Pro	Asp	Met	Arg	Arg	Phe	Phe	Glu	Asn	Leu
		980					985						990		
Asn	Pro	Met	Gly	Ser	Ala	Ser	Glu	Lys	Glu	Phe	Thr	Asp	Tyr	Leu	Phe
	995						1000					1005			
Asn	Lys	Ser	Leu	Glu	Ile	Glu	Pro	Arg	Asn	Cys	Lys	Gln	Pro	Pro	Arg
1010					1015						1020				
Phe	Pro	Arg	Lys	Ser	Thr	Phe	Ser	Leu	Lys	Ser	Pro	Gly	Ile	Arg	Pro
1025				1030					1035					1040	
Asn	Thr	Gly	Arg	His	Gly	Ser	Thr	Ser	Gly	Thr	Leu	Arg	Gly	His	Pro
			1045					1050						1055	
Thr	Pro	Leu	Glu	Arg	Glu	Pro	Cys	Lys	Ile	Ser	Phe	Ser	Arg	Ile	Ala
		1060					1065						1070		
Glu	Thr	Glu	Leu	Glu	Ser	Thr	Val	Ser	Ala	Pro	Thr	Ser	Pro	Asn	Thr
	1075					1080					1085				
Pro	Ser	Thr	Pro	Pro	Val	Ser	Ala	Ser	Ser	Asp	Leu	Ser	Val	Phe	Leu
	1090				1095						1100				
Asp	Val	Asp	Leu	Asn	Ser	Ser	Cys	Gly	Ser	Asn	Ser	Ile	Phe	Ala	Pro
1105				1110						1115				1120	
Val	Leu	Leu	Pro	His	Ser	Lys	Ser	Phe	Phe	Ser	Ser	Cys	Gly	Ser	Leu
			1125					1130					1135		
His	Lys	Leu	Ser	Glu	Glu	Pro	Leu	Ile	Pro	Pro	Pro	Leu	Pro	Pro	Arg
	1140					1145						1150			
Lys	Lys	Phe	Asp	His	Asp	Ala	Ser	Asn	Ser	Lys	Gly	Asn	Met	Lys	Ser
	1155					1160					1165				
Asp	Asp	Asp	Pro	Pro	Ala	Ile	Pro	Pro	Arg	Gln	Pro	Pro	Pro	Pro	Lys
	1170					1175					1180				
Val	Lys	Pro	Arg	Val	Pro	Val	Pro	Thr	Gly	Ala	Phe	Asp	Gly	Pro	Leu
1185				1190					1195					1200	
His	Ser	Pro	Pro	Pro	Pro	Pro	Pro	Arg	Asp	Pro	Leu	Pro	Asp	Thr	Pro
			1205					1210					1215		
Pro	Pro	Val	Pro	Leu	Arg	Pro	Pro	Glu	His	Phe	Ile	Asn	Cys	Pro	Phe
		1220					1225					1230			
Asn	Leu	Gln	Pro	Pro	Pro	Leu	Gly	His	Leu	His	Arg	Asp	Ser	Asp	Trp
	1235					1240					1245				
Leu	Arg	Asp	Ile	Ser	Thr	Cys	Pro	Asn	Ser	Pro	Ser	Thr	Pro	Pro	Ser
1250						1255						1260			

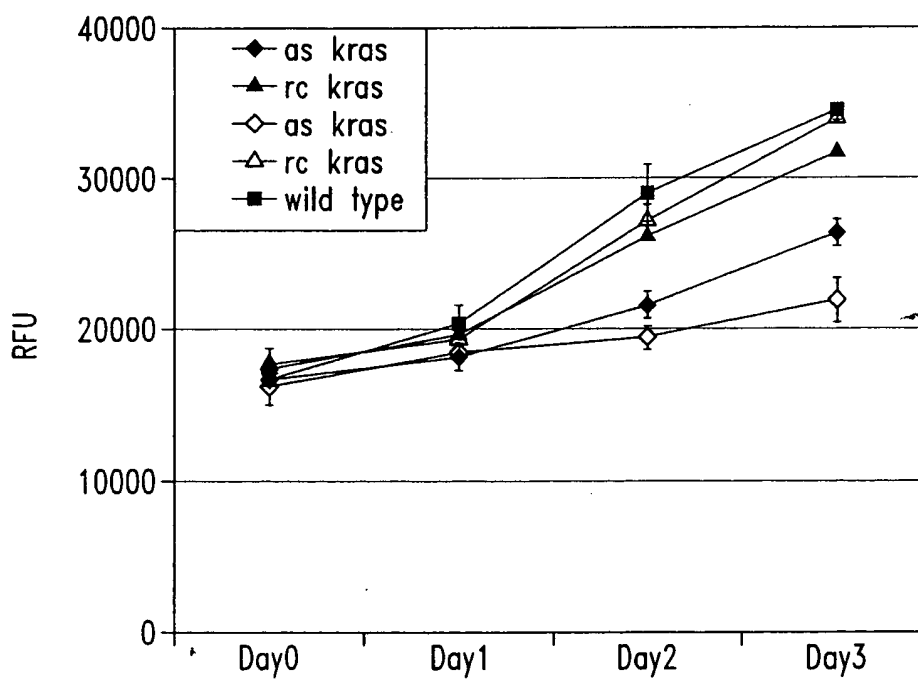
*Fig. 2D*

Thr Pro Ser Pro Arg Val Pro Arg Arg Cys Tyr Val Leu Ser Ser Ser  
1265 1270 1275 1280  
Gln Asn Asn Leu Ala His Pro Pro Ala Pro Pro Val Pro Pro Arg Gln  
1285 1290 1295  
Asn Ser Ser Pro His Leu Pro Lys Leu Pro Pro Lys Thr Tyr Lys Arg  
1300 1305 1310  
Glu Leu Ser His Pro Pro Leu Tyr Arg Leu Pro Leu Leu Glu Asn Ala  
1315 1320 1325  
Glu Thr Pro Gln  
1330

*Fig. 2E*

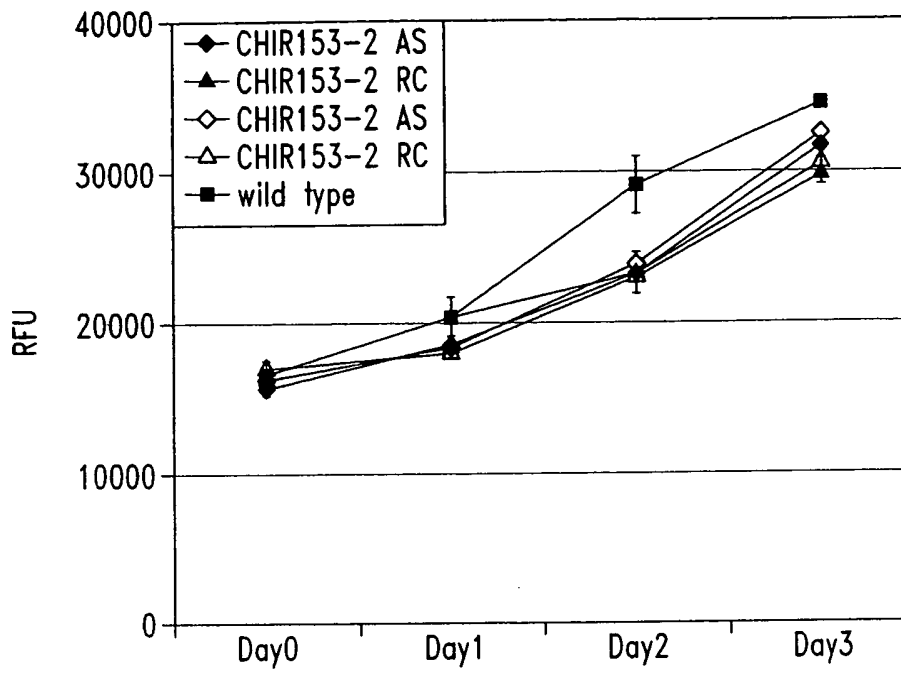


*Fig. 3A*

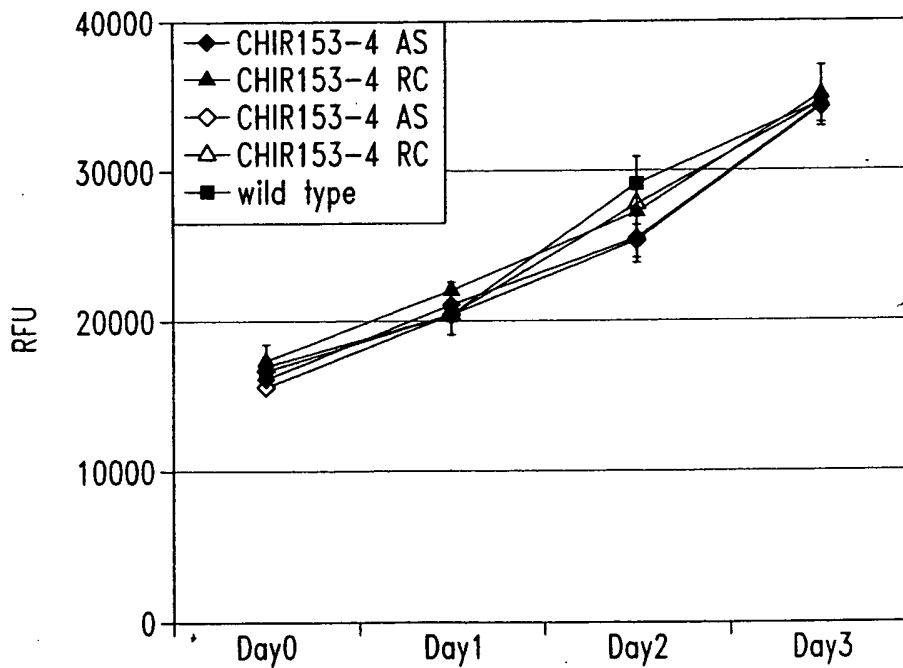


*Fig. 3B*

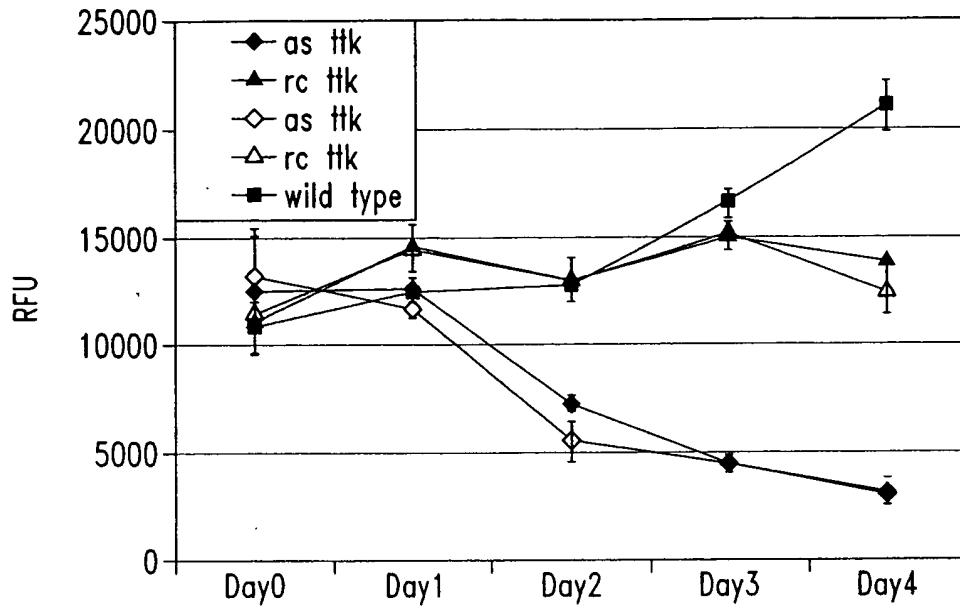




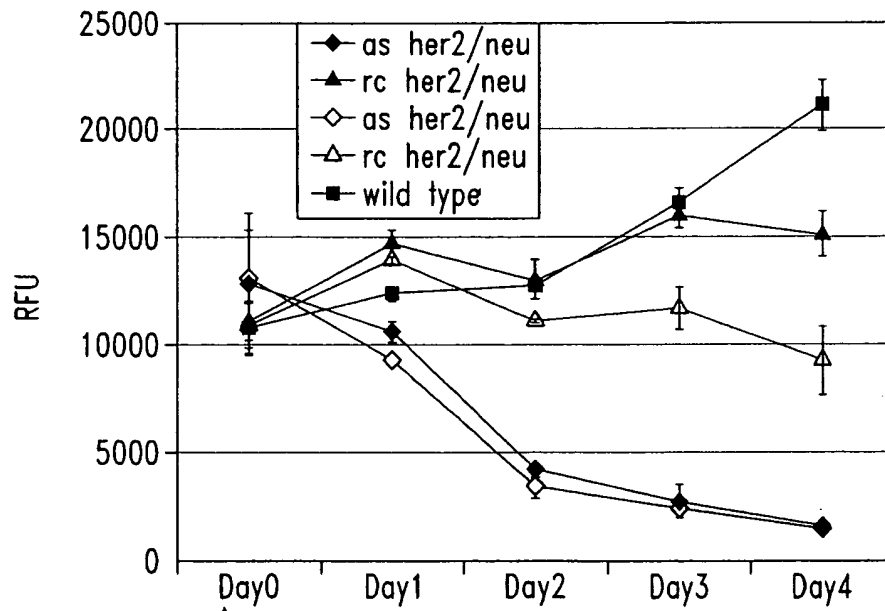
*Fig. 3C*



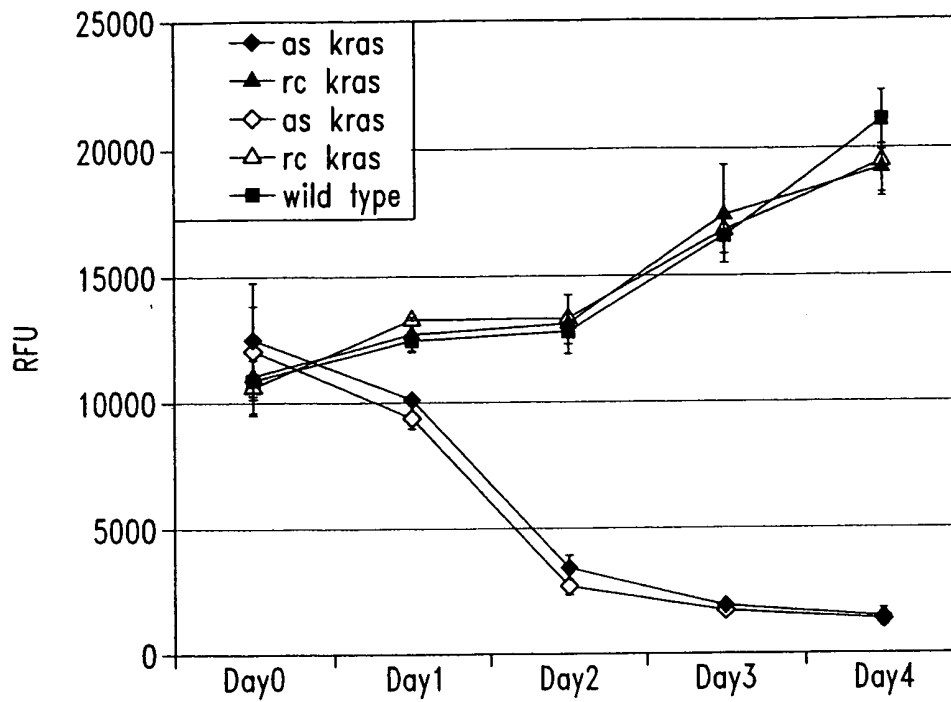
*Fig. 3D*



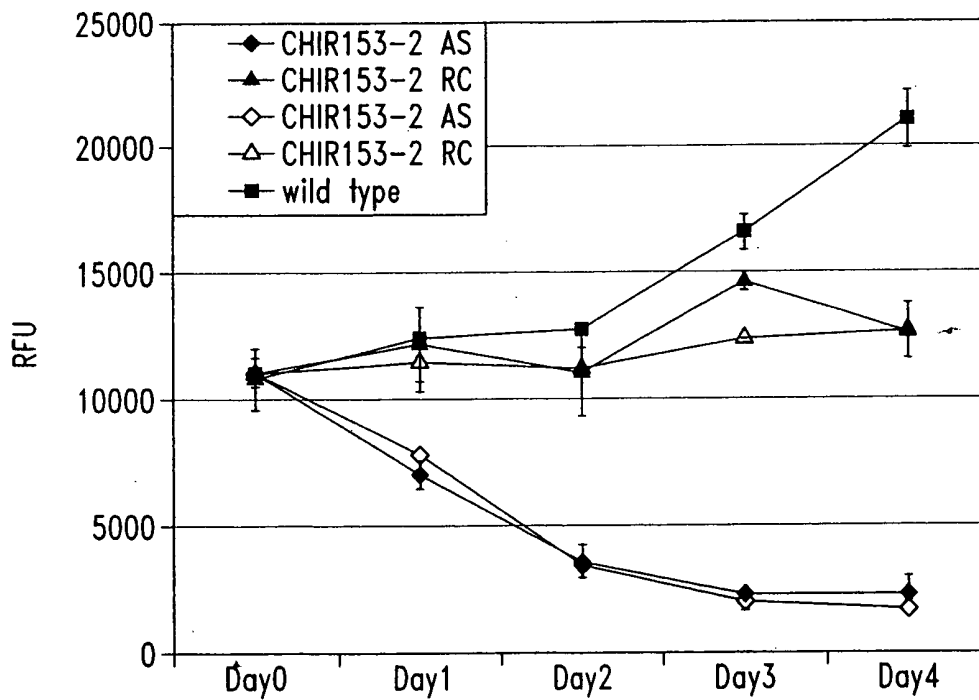
*Fig. 4A*



*Fig. 4B*



*Fig. 4C*



*Fig. 4D*